

MONTGOMERY COUNTY SOLID WASTE NEEDS ASSESSMENT

2010

Demographic Information and Projections

Provide a table and chart showing the region's population for the last ten (10) years with a projection for the next five (5) years. Provide a breakdown by sub-table and sub-chart, or some similar method to detail all county and municipality populations. Discuss projected trends and how it will affect solid waste infrastructure needs over the next (5) years.

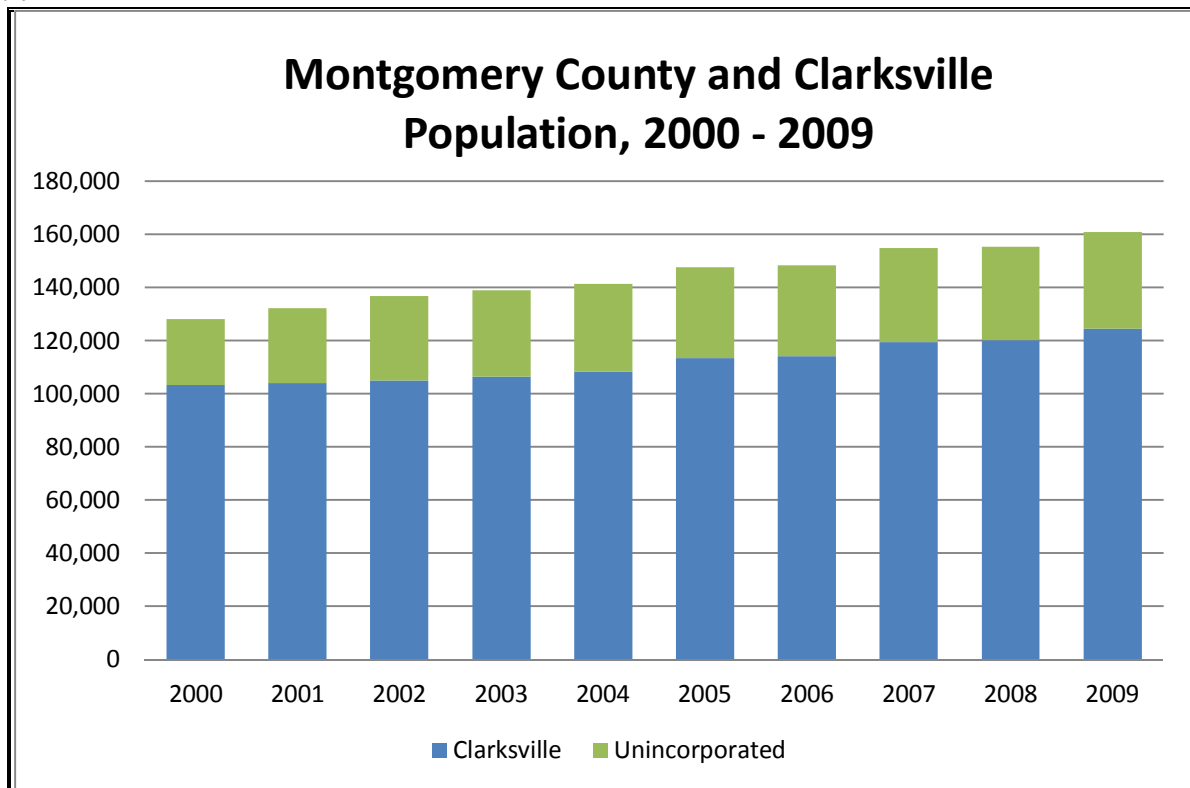
Historic Population – Montgomery County is one of Tennessee's largest counties, ranking #7 in population per U.S. Census estimates in March, 2010. The City of Clarksville dominates the population of the county, with 77% of the 2009 population being in Clarksville. Montgomery County has grown approximately 25% from 2000 to 2009, with a slightly larger percent of the population living in unincorporated Montgomery County in 2009 than in 2000, but the percent split in each remains very consistent.

See Table 1 and Chart 1 below for depictions of historic population growth in Montgomery County and Clarksville.

Table 1

MONTGOMERY COUNTY HISTORIC POPULATION 2000-2009										
	Jul-00	Jul-01	Jul-02	Jul-03	Jul-04	Jul-05	Jul-06	Jul-07	Jul-08	Jul-09
Clarksville	103,455	104,150	104,937	106,471	108,511	113,421	114,132	119,582	120,275	124,565
Unincorporated	24,642	28,084	31,874	32,444	32,953	34,368	34,201	35,278	35,220	36,413
MONTGOMERY COUNTY TOTAL	128,097	132,234	136,811	138,915	141,464	147,789	148,333	154,860	155,495	160,978
Source: Population Division, U.S. Census Bureau, June 22, 2010										

Chart 1



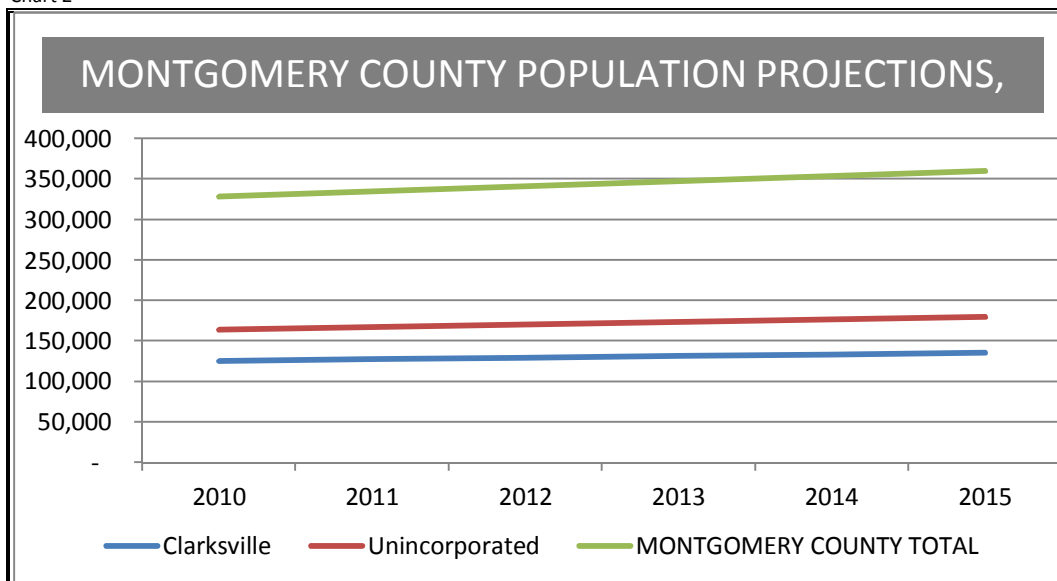
Population Projections - Population projections are estimates based on past trends, and do not always capture short-term influences on growth, such as the recent national economic downturn. Still, projections demonstrate trends, and the trend in Montgomery County is for continued growth over the next 5 years at a rate of 9.5% from 2010 to 2015.

The University of Tennessee, Center for Business and Economic Research prepares population projections for all Tennessee municipalities and counties. (see Table 2 and Chart 2 below).

Table 2

MONTGOMERY COUNTY POPULATION PROJECTIONS						
	2010	2011	2012	2013	2014	2015
Clarksville	125,186	127,202	129,205	131,192	133,165	135,125
Unincorporated	38,894	40,008	41,135	42,278	43,435	44,605
MONTGOMERY COUNTY TOTAL	164,080	167,210	170,340	173,470	176,600	179,730
Source: UT, CBER, 2010, GNRC Staff						

Chart 2



The best use of these numbers for solid waste planning may be in their ability to project the number of **households** in future years. By dividing the projected population by the average household size (2.63, as estimated by the Woods and Poole for 2015), we can project the number of new households that could be added and will contribute to the waste stream. The number of potential new households in Montgomery County is shown below in Table 3.

Table 3

2009 Estimated Population (U.S. Census)	2015 Projected Population	Population Increase 2010-2015	Average Household Size	Potential New Households, 2015
160,978	179,730	18,752	2.63	7,130

Economic Profile

Provide a table and chart showing the region's economic profile for all county and municipalities for the last ten (10) years with a projection for the next five (5) years. This can be accomplished by using the following economic indicators:

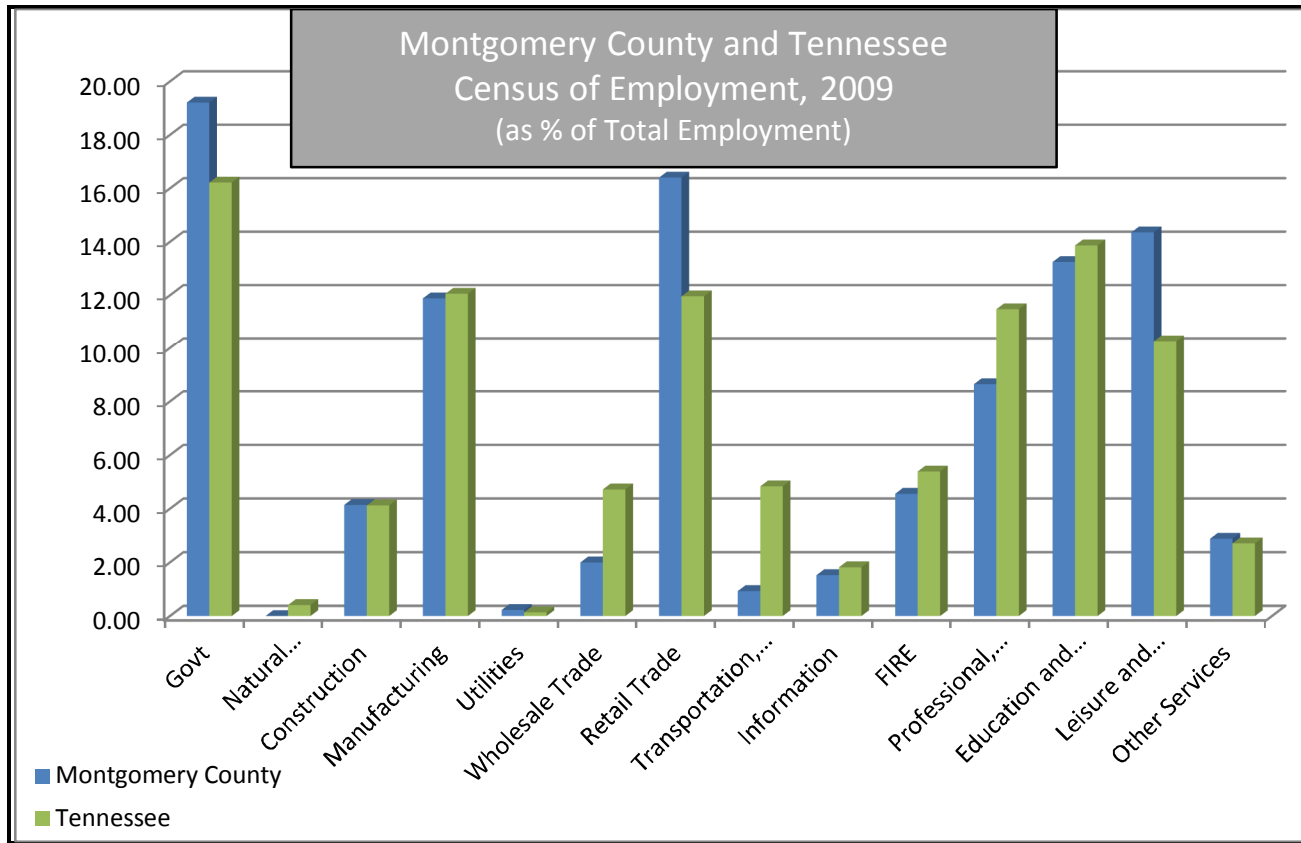
- Taxable sales, property tax generation, and per capita income
- Evaluation by breakdown of each economic sector
- County or municipal budgeting information
- Other commonly accepted economic indicators

Table 4

MONTGOMERY COUNTY, TENNESSEE SELECTED ECONOMIC DATA, HISTORIC AND PROJECTED, 2000 - 2015							
	YEAR	LABOR FORCE*	UNEMPLOYMENT	UNEMPLOYMENT RATE	PER CAPITA INCOME	PROPERTY TAX	RETAIL SALES (\$millions)
	2000	59,820	2300	3.8	24,620		1666.218
	2001	59,960	2700	4.5	25,243	45,831,434	1621.049
	2002	60,880	3180	5.2	26,329	46,899,029	1586.886
	2003	62,350	3170	5.1	28,262	48,217,881	1632.946
	2004	64,230	3090	4.8	29,450	48,491,524	1708.373
	2005	66,000	3270	5.0	32,425	58,891,545	1821.815
	2006	68,940	3240	4.7	35,689	69,236,459	1850.956
	2007	67,940	3350	4.9	36,412	68,255,610	1923.898
	2008	67,910	4340	6.4	38,270	72,634,934	1837.816
	2009	67,740	6040	8.9	35,877	77,014,257	1757.820
	2010	69,081	5014	9.2	34,856	81,393,580	1868.552
	2011	70,449	5295	9.0	36,346	85,772,904	1969.773
	2012	71,844	5576	8.6	38,006	90,152,227	2017.459
	2013	73,266	5857	6.9	39,776	94,531,550	2065.824
	2014	74,717	6138	6.3	41,652	98,910,873	2114.884
	2015	76,197	6419	6.2	43,642	103,290,197	2164.639
Sources: TN Dept of Labor & Workforce Dev, Div Emp Sec, R&S; Woods and Poole, 2011 TN State Profile; Projections by GNRC							

Montgomery County has maintained a growing labor force since 2000, with a slight decrease due to the recession but with numbers rebounding afterwards. Unemployment has run slightly lower than the State of Tennessee as a whole, with projections for 2010 through 2015 following the projected decreases called for by the University of Tennessee, Center for Business and Economic Research in their *January 2010: An Economic Report to the Governor of the State of Tennessee*, where UT projects a decrease in unemployment over time, with Montgomery County running lower than the State average. Per capita income, as compiled by Woods and Poole in 2010, has increased each year, and tracks higher than the State of Tennessee average. By 2015, Montgomery County's PCI will be approximately 30% higher than the State projected PCI, making Montgomery County one of the wealthier counties in the state. Property taxes have been consistent. Retail sales had a slight dip in 2008 through 2009, following the national recession, but projections call for a rebound for the next 5 years.

Chart 4



Source: State of TN, Dept. of Labor and Workforce Development

Montgomery County's sector employment is consistent with State trends for the most part, but with a greater percentage of people employed in retail trade, leisure service, and government jobs, and slightly smaller percentage than the State for professional service, and transportation sectors. Manufacturing and construction employment mirrors State averages, but may increase due to start-ups in the Clarksville-Montgomery Industrial Park megasite. The State of Tennessee Department of Labor and Workforce Development includes Montgomery County in its Labor and Workforce Investment Area (LWIA) #8 (which also includes Cheatham, Dickson, Houston, Humphreys, , Robertson, Stewart, Sumner, and Williamson Counties), and in its **Job Forecast News, Hot Jobs to 2016** Report, predicts that the High-Growth industries for this LWIA will be **Professional, Scientific, and Technical Services; Administrative and Support Services; Ambulatory Health Care Services; Food Services and Drinking Places; and Educational Services**. The Tennessee Department of Labor and Workforce Development projects that government jobs in general will have a very modest .5% gain through 2018. This slight gain may not be sufficient to handle the projected increase in the labor force.

The charts and graphs below depict yearly totals in employment by sector for Montgomery County, and offer comparisons with the yearly totals and projections for the State of Tennessee, per *Woods and Poole 2011 State Profile*. As demonstrated by the single-year comparison above, Montgomery County has been heavily dependent on government employment, manufacturing employment, construction, and retail trade, with little change projected for the next 5 years. The State of Tennessee has seen its manufacturing employment decrease steadily, with a rise in education and health services, and future employment relying on a mix of manufacturing, education and health services, business and professional services, retail, and leisure and hospitality services.

Table 5

MONTGOMERY COUNTY, TENNESSEE EMPLOYMENT BY SECTOR 2000 - 2015																
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Government	8970	8923	8785	8784	8942	8962	8859	9166	9477	10017	10348	10585	10676	10766	10856	10944
Farming, Fishing, Mining, Related	1939	1941	1887	1766	1700	1398	1403	1310	1309	1337	1369	1391	1394	1394	1397	1400
Construction	3865	3860	3724	3794	4130	4542	4728	4811	4968	4334	4077	4217	4307	4398	4490	4584
Manufacturing	8194	7424	6258	6337	6302	6167	6292	6186	6289	5934	6473	6529	6493	6456	6419	6381
Utilities	106	107	103	96	96	63	64	73	76	88	89	90	89	89	89	88
Wholesale Trade	1145	1208	1163	1066	1111	1142	1260	1380	1252	1059	937	960	970	980	990	1000
Retail Trade	7832	7981	8324	8402	8766	9054	9404	9461	9171	8568	8619	8856	8977	9098	9219	9340
Transportation, Warehousing	1673	1719	1855	1640	1701	1191	1167	1373	1382	1306	1321	1345	1351	1356	1362	1367
Information	1123	1163	1176	1087	915	1109	1035	963	895	817	748	760	761	762	763	764
Finance, Insurance, Real Estate	3353	3438	3619	3654	3844	4143	4326	4840	5173	5032	4998	5155	5241	5328	5416	5505
Professional, Business Services	5018	5222	5888	5892	5960	6219	6440	6647	6656	6218	6194	6444	6613	6786	6962	7140
Education, Health Services	5250	5659	5890	6271	6335	6619	6960	6986	7000	7252	7441	7738	7937	8141	8349	8560
Leisure, Hospitality	4410	4709	5307	5687	6256	6473	6578	7275	7125	6942	7028	7303	7478	7653	7831	8012
Other	3373	3616	3830	3820	3996	4124	4176	4387	4418	4397	4488	4656	4763	4873	4984	5097
TOTAL	56251	56970	57809	58296	60054	61206	62692	64858	65191	63301	64130	66029	67050	68080	69127	70182

Source: Woods and Poole, 2011 TN State Profile

Chart 5

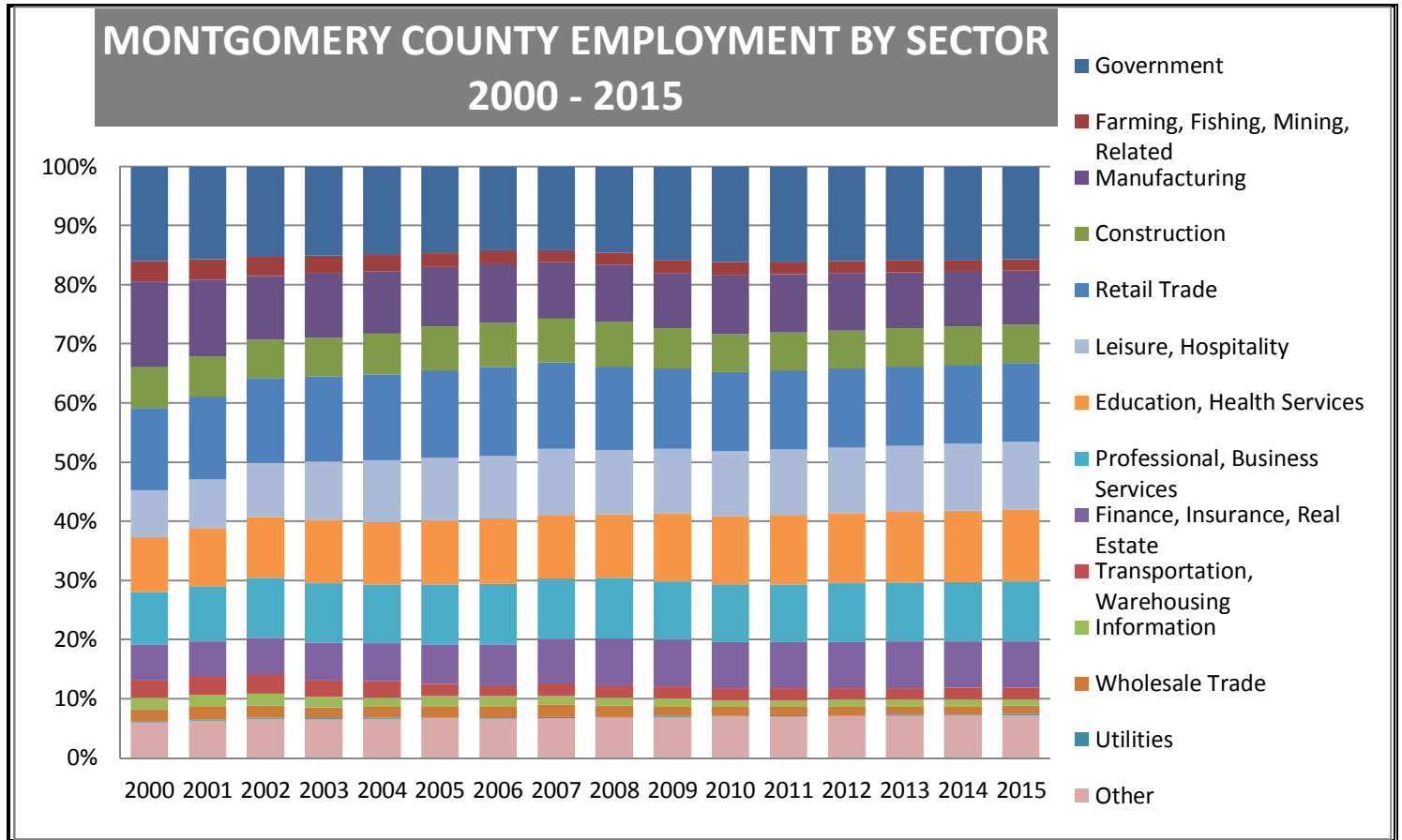
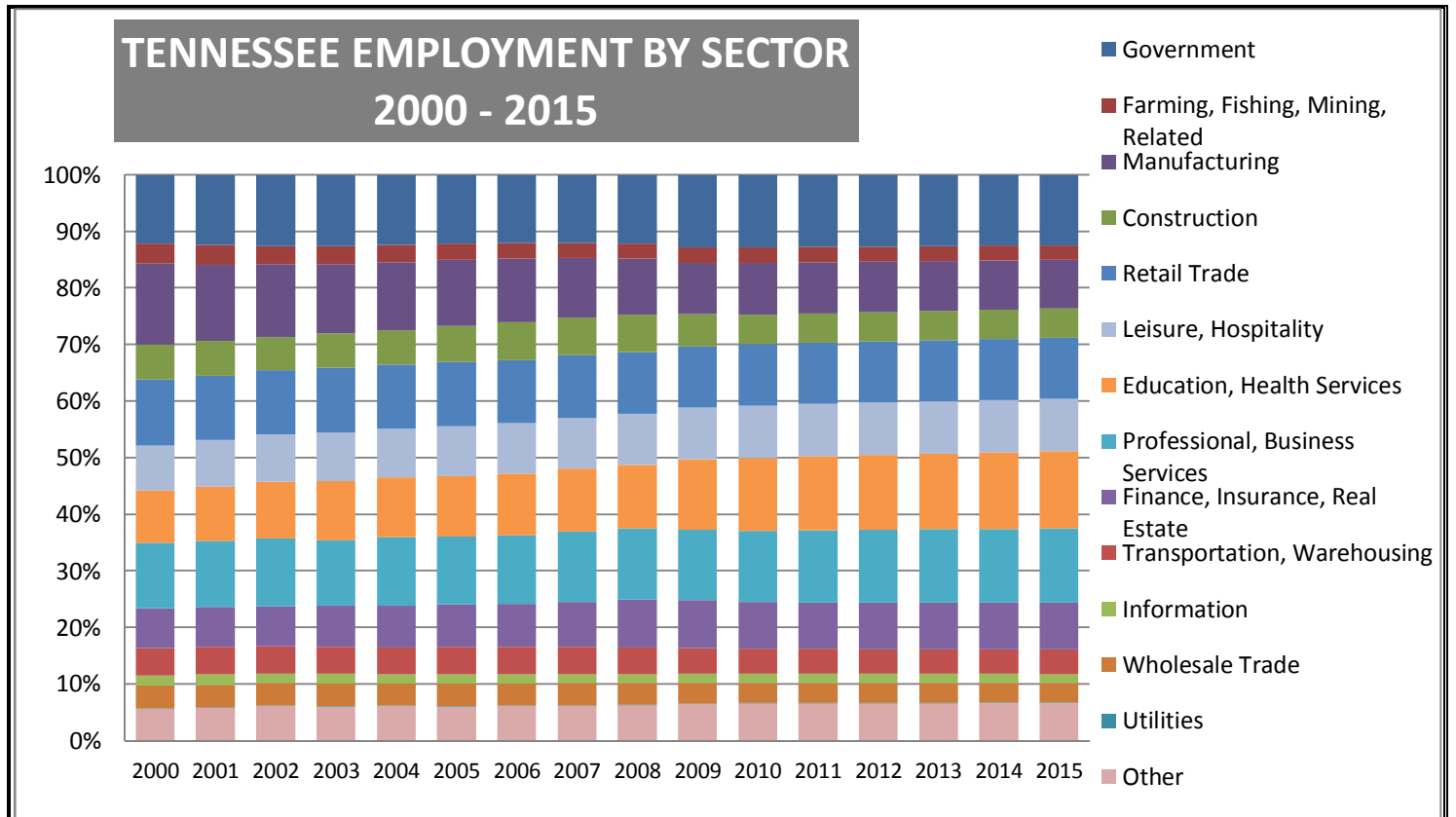


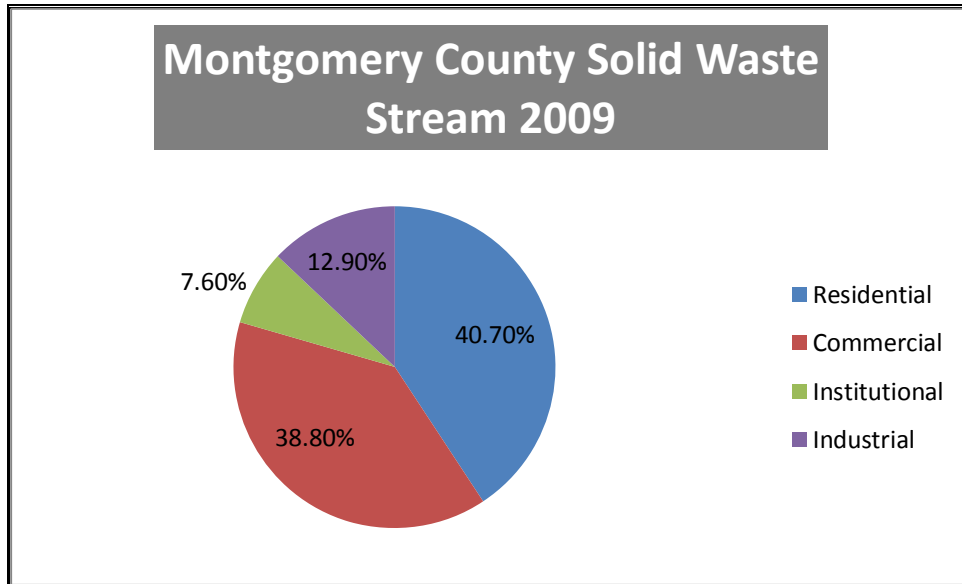
Chart 6



Solid Waste Stream

Elaborate on the entire region's solid waste stream. Compare today's waste stream with anticipated waste stream over the next five (5) years. How will the total waste stream be handled in the next five (5) years? Include in this discussion how problem wastes like waste tires, used oil, latex paint, electronics and other problem wastes are currently handled and are projected to be handled in the next five (5) years. What other waste types generated in this region require special attention? Discuss disposal options and management of these waste streams as well as how these waste streams will be handled in the future. Include in this discussion how commercial or industrial wastes are managed. Also provide an analysis noting source and amounts of any wastes entering or leaving out of the region.

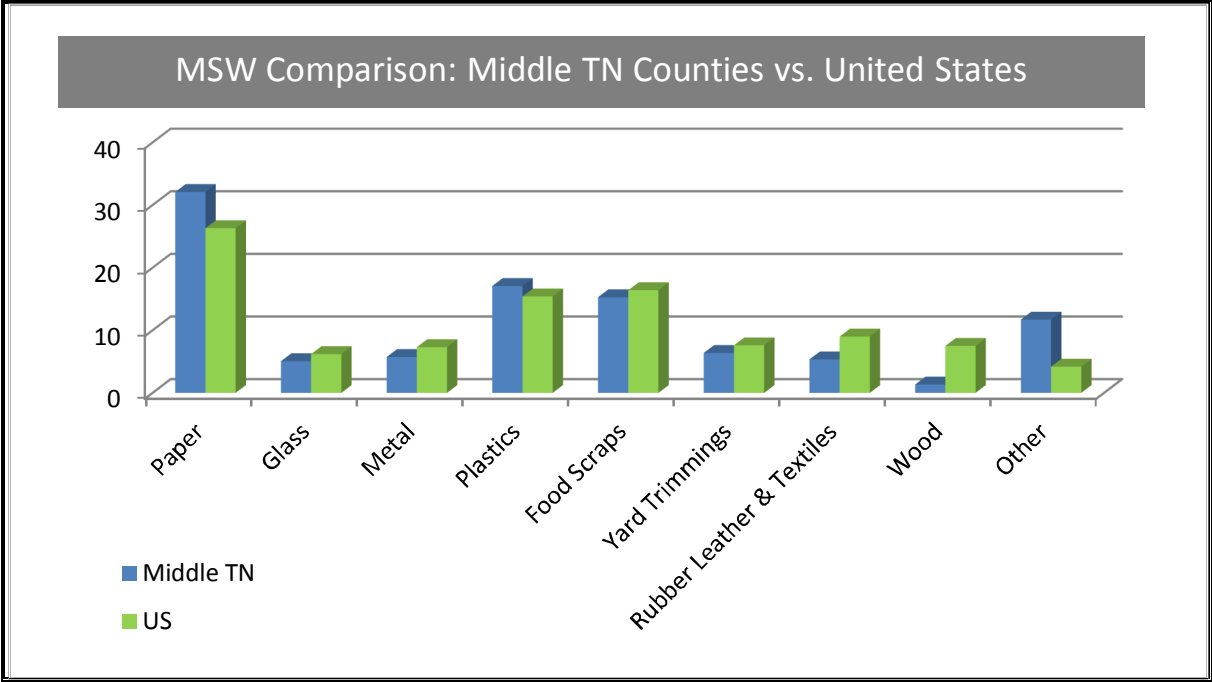
Chart 7



Montgomery County's waste stream is 40.7% residential, 38.8% commercial, 7.6% institutional, and 12.9% industrial.

The composition of the waste stream specific to Montgomery County has not been measured, however, a report prepared in 2008 by Tennessee State University for the TN Department of Environment and Conservation conducted a municipal solid waste characterization study of waste being handled at two facilities in Tennessee: Cedar Ridge Landfill in Lewisburg (Marshall County), and Bi-County Landfill in Montgomery County. Samples were taken and weighed, and results categorized. The report, **2008 Tennessee Waste Characterization Study**, noted that the 2 Middle Tennessee landfills surveyed had statistically significant differences in waste stream composition than the United States at large. As shown below, the 2 studied landfills had larger percentages of paper and plastics, but smaller percentages of food scraps, rubber, leather, textiles, and wood. All county waste streams will vary dependant on the mix of residential and commercial contributors, as well as the level of recycling efforts, however, the results of the TDEC/TSU are directly relatable to Montgomery County, as the Bi-County Landfill is in Montgomery County.

Chart 8



No significant changes are expected in the way Montgomery County handles its waste stream in the next five years.

Waste Collection System

Describe in detail the waste collection system of the region and every county and municipality. Provide a narrative of the life cycle of solid waste from the moment it becomes waste (loses value) until it ceases to be a waste by becoming a useful product, residual landfill material, or an emission to air or water. Label all major steps in this cycle noting all locations where wastes are collected, stored, or processed along with the name of operators and transporters for these sites.

Waste Reduction

The Solid Waste Management Act of 1991 states that all regions must reduce the amount of waste going into Class I landfills by 25%. Amendments to the Act allow for consideration of economic growth, and a “qualitative” method in which the reduction rate is compared on a yearly basis with the amount of Class I disposal. Provide a table showing reduction rate by each goal calculation methodology. Discuss how the region made the goal by each methodology or why they did not. If the Region did not meet the 25% waste reduction goal, what steps or infrastructure improvements should be taken to attain the goal and to sustain this goal into the future.

Collection & Disposal Capacities/Collection Service Providers

- A. Provide a chart indicating current collection and disposal capacity by facility site and the maximum capacity the current infrastructure can handle at maximum through put. Provide this for both Class I and Class III/IV disposal and recycled materials. Identify and discuss any potential shortfalls in materials management capacity whether these are at the collection or processor level.

Chart 9

Site Name(s)	Current Capacity	Maximum Capacity	Project Life of Facility
Total:			

Show Mapped locations

- B. Provide a chart of other graphical representation showing public and private collection service provider area coverage within the county and municipalities. Include provider's name, area of service, population served by provider, frequency of collection, yearly tons collected, and the type of service provided.

Chart 10

Provider of Service	Service Area	Population Total Under This Service	Frequency of Service (Weekly, Bi-weekly, on call, etc.)	Tonnage Capacity	Type Service (Curbside, Convenience Center, Green Box)

Financial Needs

Complete the chart below and discuss unmet financial needs to maintain current level of service. Provide a cost summary for current year expenditures and projected increased costs for unmet needs.

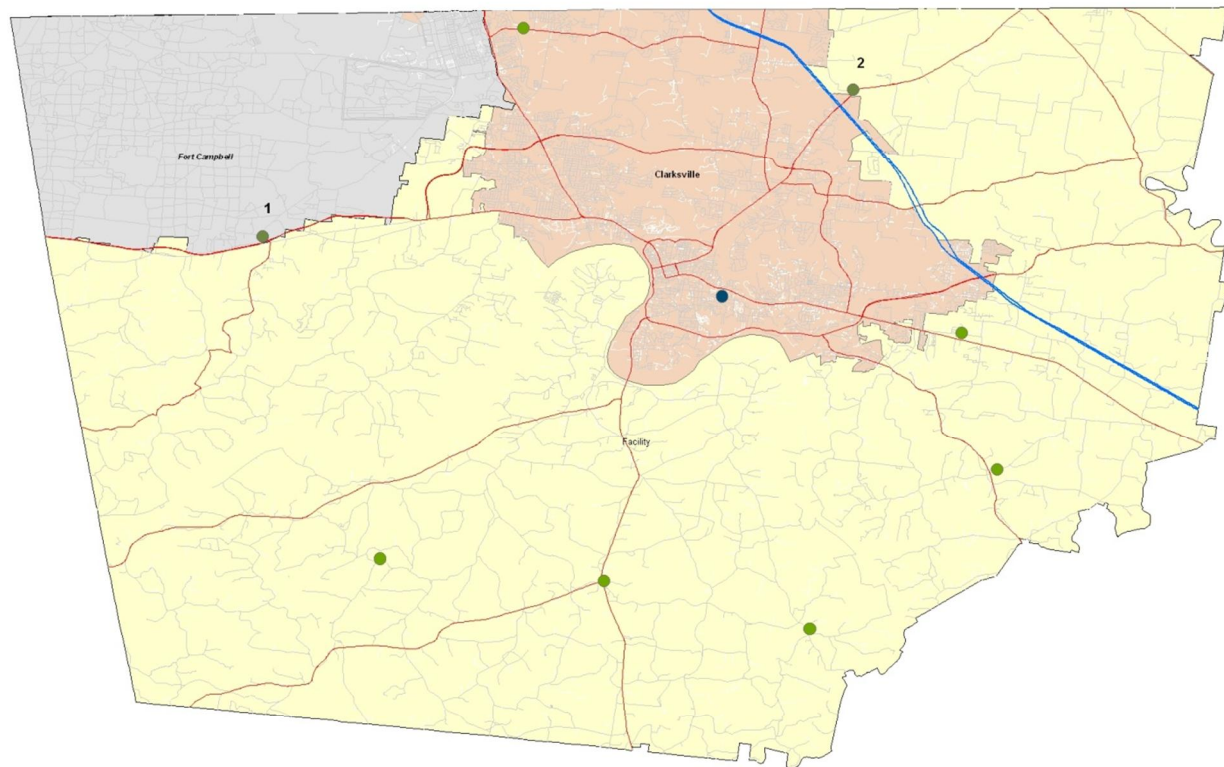
Chart 11

EXPENDITURES			
Description	Present Need \$/year	Unmet Needs \$/year	Total Needs (Present + Unmet) \$/year
Salary and Benefits			
Transportation/hauling			
Collection and Disposal Systems			
Equipment			
Sites			
Convenience Center			
Transfer Station			
Recycling Center			
MRF			
Landfills			
Site			
Operation			
Closure			
Post Closure Care			
Administration (supplies, communication costs, etc.)			
Education			
Public			
Continuing Ed.			
Capital Projects			
REVENUE			
Host agreement fee			
Tipping fees			
Property taxes			
Sales tax			
Surcharges			
Disposal Fees			
Collection charges			
Industrial or commercial charges			
Residential charges			
Convenience Center charges			
Transfer Station charges			
Sale of Methane Gas			
Other sources: (Grants, bonds, interest, sales, etc.)			

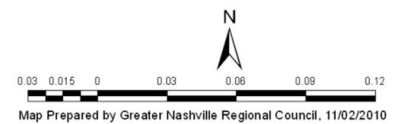
Organization & Facility Locations

Provide organizational charts of each county and municipality's solid waste program and staff arrangement. Identify needed positions, facilities, and equipment that a fully integrated solid waste system would have to provide at a full level of service. Provide a scale county level map indicating location of all facilities, including convenience centers, transfer stations, recycling centers, waste tire drop-off sites, used oil collection sites, paint recycling centers, all landfills, etc. Identify any short comings in service and note what might be needed to fill this need.

MONTGOMERY COUNTY SOLID WASTE FACILITIES



Street Type	Facility
Interstate 24	Convenience Center
US and State Highways	Transfer Station
Local Streets	Landfill/Convenience Center
	1. Bi-County Landfill (Class II)
	2. St. Bethlehem C&D Landfill



Revenue Sources/Needs

Identify all current revenue sources by county and municipality that are used for materials and solid waste management. Project future revenue needs from these categories and discuss how this need will be met in the future. Use example in Chart 7 as an example to present data.

Recycling

Describe current attitudes of the region and its citizens towards recycling, waste diversion, and waste disposal in general. Where recycling is provided, discuss participation within the region. Indicate current and on-going education measures to curb apathy or negative attitude towards waste reduction. Are additional measures needed to change citizen's behaviors? If so, what specific behaviors need to be targeted and by what means?

Sustainability

Discuss this region's plan for managing their solid waste management system for the next five (5) years. Identify any deficiencies and suggest recommendations to eliminate deficiencies and provide sustainability of the system for the next (5) years. Show how the region's plan supports the Statewide Solid Waste Management Plan.